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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,791	02/16/2001	Michael D. Goldstein	12808.12US11	5543

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EXAMINER

AN, SHAWN S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/785,791

Applicant(s)
Michael Goldstein et al.

Examiner
Shawn An

Art Unit
2613



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5, 6, 8 6) ☐ Other:

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 2, movement detector 230, is not shown. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 16 is rejected under 35 U.S.C. 112 (2 nd) as lacking antecedent basis.

Claim 16 recites the limitation "said controller" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 3, 6-7, 9-10, 14, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al (5,490,015).

Regarding claims 1, 9, and 30, Umeyama et al discloses a stereoscopic device comprising:

a sensor assembly (Fig. 60, 406) for detecting a sequence of stereoscopic images of an object

a movement detector (417) for detecting movements of the sensor assembly; and

a processing unit (421) connected to the sensor assembly and to the movement detector;

wherein the processing unit controls focusing, according to a signal received from the movement detector, thereby producing a visually stable sequence of display images (col. 31, lines 43-52).

Since the processing unit controls focusing, it would have been obvious for the processing unit to select portions of the stereoscopic images for producing a visually stable sequence of display images.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to modify the processing unit's focusing state so that the processing unit selects portions of the stereoscopic images in order to produce a visually stable sequence of display images.

Regarding claim 3, Umeyama et al discloses the processing unit being connected to the movement detector (417). Umeyama et al also discloses a 3D processing unit (136) being connected to a memory unit (134). Therefore, it is considered quite obvious for the movement detector and the memory unit to be connected to the processing unit for storing essential video data.

Regarding claim 6, Umeyama et al discloses an interface (Fig. 23, 132) being connected to a sensor assembly (125) and to a processor (136);
a light source connected to the insertion portion (col. 16, lines 15-21);

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a stereoscopic video generator (136) connected to the processor; and
a stereoscopic display unit (131) connected to the video generator for producing the stable sequence of images.

Therefore, it is considered quite obvious for the light source to be connected to the interface for illuminating an object.

Regarding claim 7, it is considered quite obvious for the light source to produce light in a predetermined range of wavelength, such as red, green, or blue for illuminating colors to display a more accurate color video signal.

Regarding claim 10, since Umeyama et al discloses displaying stereoscopic image, it is considered an obvious design choice to implement partially stereoscopic image for use in a particular scenarios.

Regarding claims 14 and 32, it is considered quite obvious and simple design choice to make an average of the movement to be constant to be used as a threshold level.

Regarding claim 31, Umeyama et al discloses a light source (Fig. 20, 103) for illuminating a detected area of an object.

6. Claims 2, 5, 12-13, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al as applied to claims 1 and 32 above, respectively, and further in view of Adelson (5,076,687).

Regarding claims 2 and 33, Umeyama et al does not specifically disclose a lenticular lens array and a light sensor array.

However, Adelson teaches a conventional optical apparatus including a lenticular lens array (Fig. 7, 32) and a light sensor array (33), wherein the lens layer is located in front of the sensor array (Fig .7).

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Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to incorporate the lenticular lens array and the light sensor array as taught by Adelson for detecting stereoscopic images.

Regarding claims 12-13 and 34, a conventional CCD light sensor array sensing different colors such as RGB is well known in the art. Furthermore, it is considered quite obvious to include CYMG light sensor array so as to detect different wavelengths.

Regarding claims 5 and 35, considering Umeyama et al's movement detector, it is considered quite obvious to measure a distance of movements from an origin to a direction opposite to the respective movement relative to the origin in order to trace a locally relevant specific area of the object.

Regarding claim 36, associating/selecting each one of the sub-matrices in time is conventional well known in the art (note: McKenna et al (5,800,341), abs.).

7. Claims 4 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al as applied to claims 2 and 15 above, respectively, and further in view of McKenna et al (5,800,341).

Regarding claims 4 and 26, Umeyama et al does not specifically disclose selecting a sub-matrices from a plurality of sub-matrices (CCD cells).

However, McKenna et al teaches selecting a sub-matrices (CCD cell) from a plurality of sub-matrices (abs.).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to incorporate the concept of selecting a sub-matrices (CCD cell) from a plurality of sub-matrices as taught by McKenna in order to focus on that particular area for displaying fine images.

Regarding claim 27, considering Umeyama et al's movement detector, it is considered quite obvious to measure a distance of movements from an origin to a direction opposite to the

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respective movement relative to the origin in order to trace a locally relevant specific area of the object.

Regarding claims 28, a conventional CCD light sensor array sensing different colors such as RGB is well known in the art. Therefore, it is considered quite obvious to include CYM light sensor array so as to detect different wavelengths such as cyan, yellow, or magenta.

8. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al as applied to claim 6 above, and further in view of Watannabe (5,812,187).

Regarding claim 8, Umeyama et al does not specifically disclose a light source producing at least two alternating beam of light as being in a different range of wavelengths.

However, Watannabe teaches an endoscope (Fig. 1) including a conventional light source unit producing at least two alternating beam of light (5) as being in a different range of wavelengths.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to incorporate the Watannabe's light source unit so as to produce at least two alternating beam of light (R, G, B) having a different range of wavelengths for generating a more accurate color video signal, thus improving an image quality.

Regarding claim 11, Watannabe discloses a wavelengths consisting of visible red, green blue colors light (7). Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

9. Claims 15, 17-20, 23-25, 29, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al as applied to claims 1 and 32 above, respectively, and further in view of Street (6,075,555).

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Regarding claims 15, 17, 24, and 37, Umeyama et al discloses at least two apertures (Fig. 20, 103) including a light valve being operative to open at a different predetermined timing.

Umeyama et al does not specifically disclose a multiwavelength light sensor array, wherein the light sensor array detects a plurality of images corresponding to a predetermined combination of open state of a selected one of the light valves and a selected one of at least two alternating beams of light.

However, Street teaches a stereoscopic device including at least two apertures (Fig. 3, 41) including a light valve being operative to open at a different predetermined timing (col. 6, lines 34-50);

a capture means for capturing data received from the multiwavelength light sensor array (32);

wherein the light sensor array detects a plurality of images corresponding to a predetermined combination of open state of a selected one of the light valves and a selected one of at least two alternating beams of light (col. 6, lines 26-64).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to incorporate the Street's a multiwavelength light sensor array, wherein the light sensor array detects a plurality of images corresponding to a predetermined combination of open state of a selected one of the light valves and a selected one of at least two alternating beams of light as an alternative way to detect/implement stereoscopic images.

Regarding claim 18, Umeyama et al discloses an image processor (421); a storage unit (134) for capturing data. Furthermore, a controller is an inherently obvious feature for controlling devices such as a storage unit, movement detector, light valves, light sensor array, for controlling such as timing the operation of the devices as mentioned above and an illumination unit.

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Regarding claims 19 and 20, it is considered quite obvious to include two group of sensor or a plurality of sensors so that each group of sensor can detect light in a different wavelength such as blue or red or green.

Regarding claim 23, since Street teaches RGB CCD array, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

Regarding claim 25, since Street discloses RGB sensor array, it is considered quite obvious to include/substitute CYMG sensor array so as to detect different wavelengths.

Regarding claim 29, Umeyama et al discloses a stereoscopic video generator (136) and a stereoscopic display unit (131) for producing stable display images.

10. Claims 16, 21-22, and 38-40 rejected under 35 U.S.C. 103(a) as being unpatentable over Umeyama et al and Street as applied to claims 15 and 37 above, respectively, and further in view of Watannabe (5,812,187).

Regarding claims 16, 21, and 38, The combination of Umeyama et al and Street does not specifically disclose a controllable multi wavelength illuminating unit producing at least two alternating beam of light as being in a different range of wavelengths.

However, Watannabe teaches an endoscope (Fig. 1) including a conventional controllable multi wavelength illuminating unit producing at least two alternating beam of light (5) as being in a different range of wavelengths.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Umeyama et al to incorporate the Watannabe's controllable multi wavelength illuminating unit in place of the Umeyama et al's illuminating unit so as to produce at least two alternating beam of light (R, G, B) having a different range of wavelengths for generating a more accurate color video signal, thus improving an image quality.

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Regarding claim 22, Watannabe discloses a wavelengths consisting of visible red, green blue colors light (7). Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

Regarding claim 39, considering Umeyama et al's movement detector, it is considered quite obvious to measure a distance of movements from an origin to a direction opposite to the respective movement relative to the origin in order to trace a locally relevant specific area of the object.

Regarding claim 40, associating/selecting each one of the sub-matrices at different predetermined timing is conventional well known in the art (note: McKenna et al (5,800,341), abs.).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Kuban et al (5,313,306), Omniview motionless camera endoscopy system.

12. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number (703) 305-0099 and schedule are Tuesday-Friday (Monday off).



SSA

**SHAWN S. AN
PATENT EXAMINER**

August 23, 2002